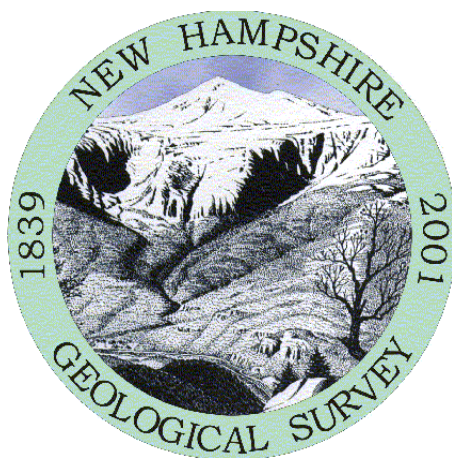


# **New Hampshire Groundwater Level Monitoring**

## **April, 2020**



**New Hampshire Geological Survey  
29 Hazen Drive, PO Box 95  
Concord, New Hampshire 03302-0095**

**May 29, 2020**

## GROUNDWATER CONDITIONS SUMMARY

According to the [Northeast Regional Climate Center](#) (NRCC) at Cornell University, New Hampshire received an average of 4.66 inches of precipitation during the month of April, which is 0.79 inches above normal or 120% of normal based on the 1981-2010 precipitation records. Precipitation was somewhat evenly distributed across the state this month, with the southern portion receiving half an inch more than the northern portion (Figure 1). The state has been free from drought in April according to the [National Drought Mitigation Center](#). However, on May 28, 2020, abnormally dry conditions have been reported in the southern portion of the state.



Figure 1. Northern (1) and Southern (2) portions of NH, courtesy of NRCC.

Figure 2 shows the monthly status of groundwater levels for both bedrock and overburden wells in the network. Only wells with 10 years or more of record are placed within statistical categories of low through high (symbols red through blue, respectively). Bedrock wells are installed into bedrock and overburden wells are installed in the unconsolidated materials above bedrock.

The majority of the state is experiencing normal to high groundwater levels, with the exception of our overburden well in Lancaster and our bedrock well in Hooksett. Groundwater levels in the Lancaster well have been below average to low for over a year likely due to precipitation shortages in the Israel River's watershed ([see report for March](#)). Prior to this year's early snow melt, levels in the Hooksett well have been below normal to low since March 2019. Levels recovered to normal in December 2019 through March 2020, but have gradually fallen during a time when levels are usually the shallowest.

The overburden wells in Newport show that groundwater levels have recovered to normal following a year of below average readings. Groundwater levels in Barnstead have been above normal to high for the last 7-month period.

The New Hampshire Geological Survey's groundwater monitoring network (Figure 2) currently includes 11 bedrock and 20 overburden observation wells, all of which are measured monthly by hand. Using the monthly hand readings, monthly averages and percentile statistics were calculated and are summarized in Figure 2, the following hydrographs\*, and in Table 1.

\*The hydrographs show the following data over a period of 12 months: (1) monthly groundwater depths in red, (2) the monthly average over the period of record (POR) of the well in black, and (3) color-coded statistical ranges over the POR of the well. Note the POR is listed below each month's column on the chart and reported as the number of measurements for that respective month. This might include multiple readings in the same month and does not include any gaps in data so therefore may not represent a continuous period.

## April 2020 Groundwater Levels

### Monthly Status

- High
- Above norm
- Normal
- Below norm
- Low
- Not Analyzed
- Counties

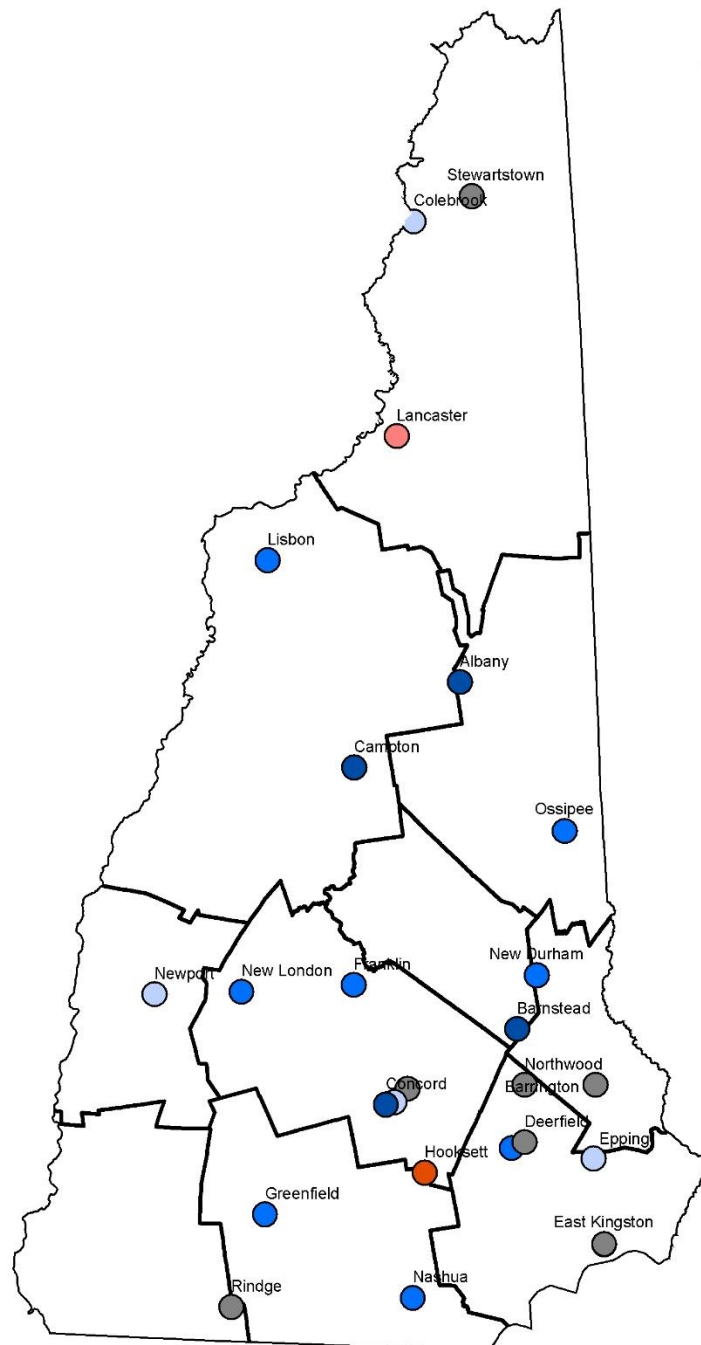
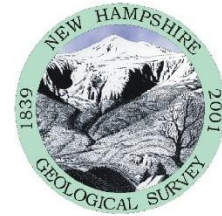
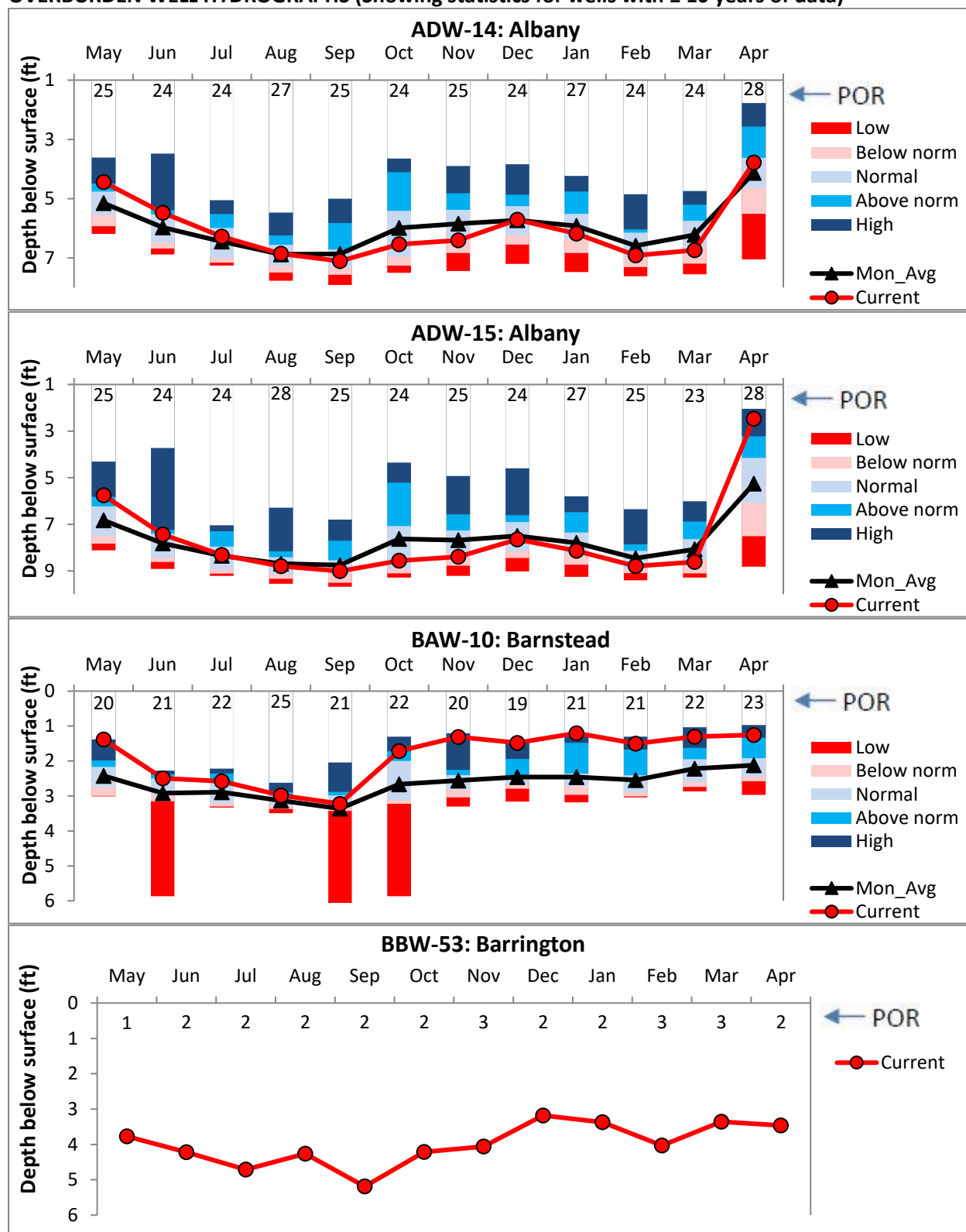
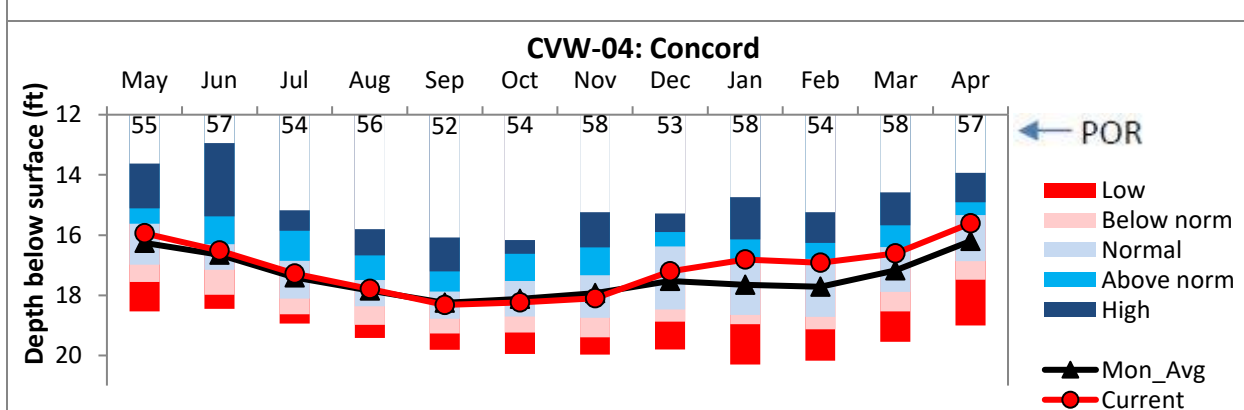
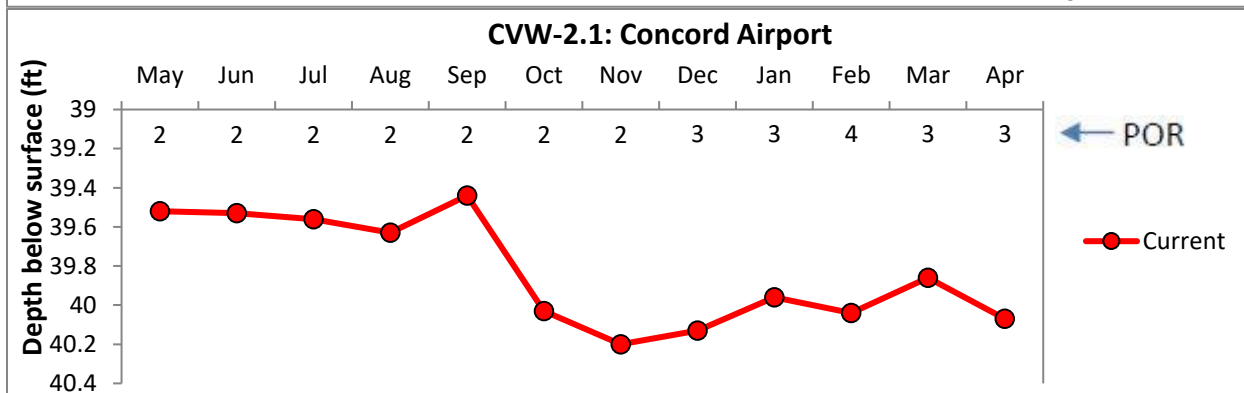
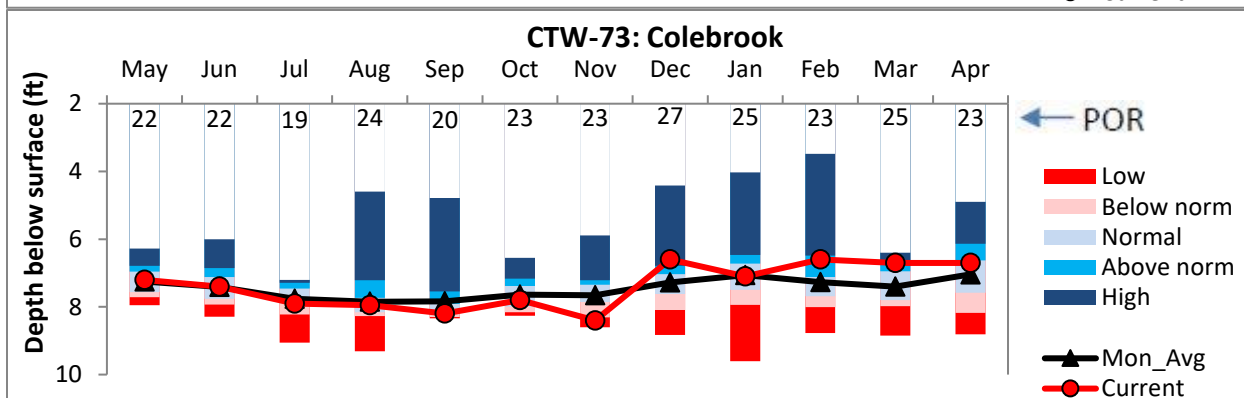
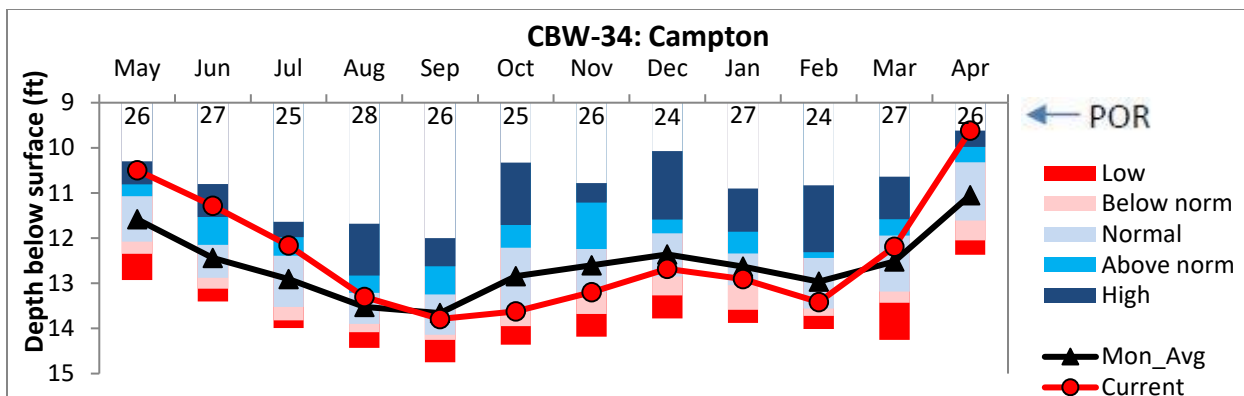
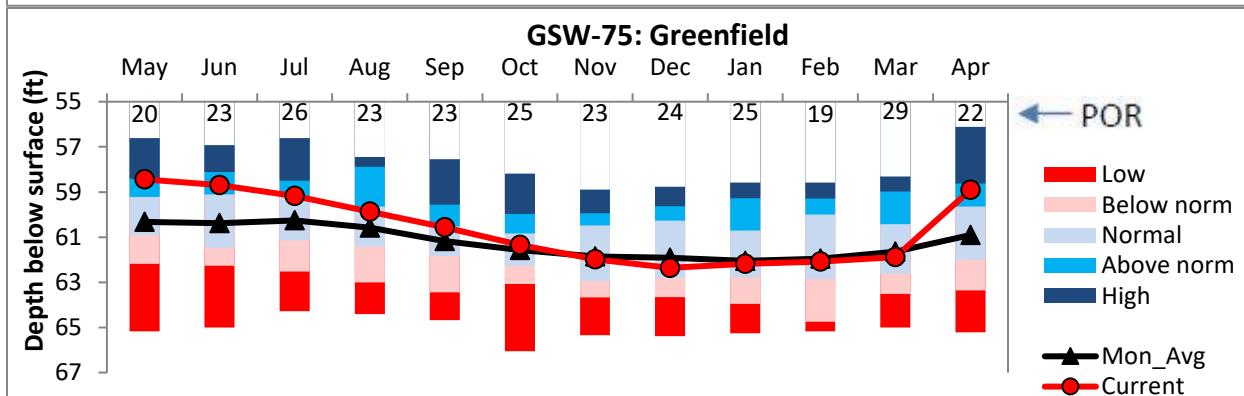
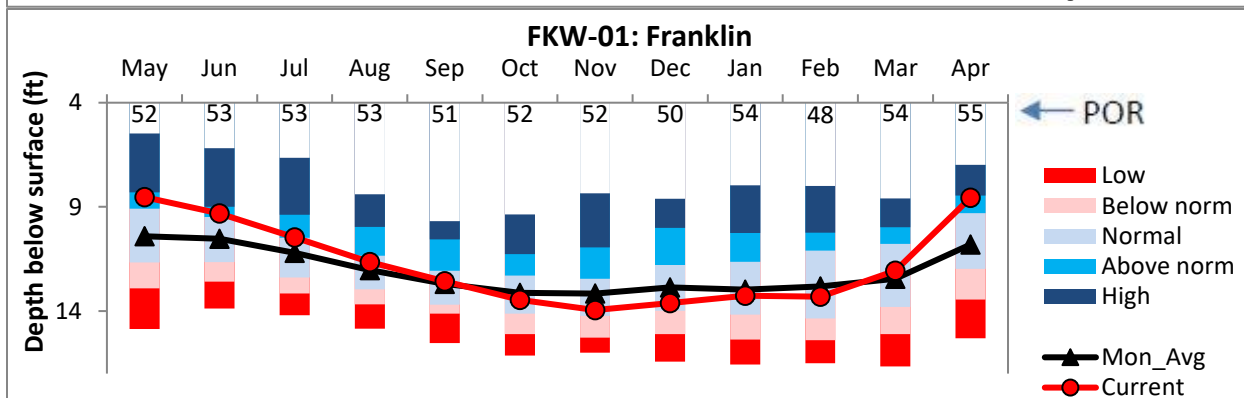
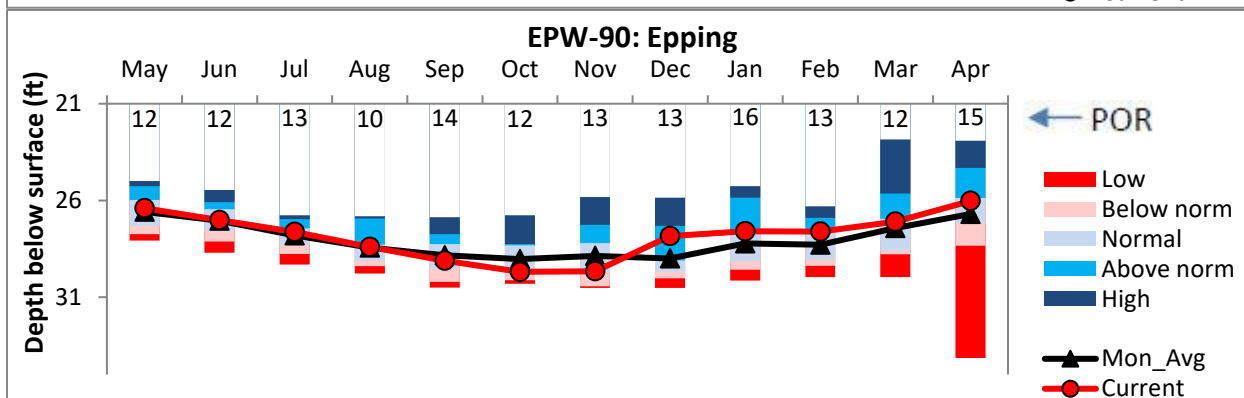
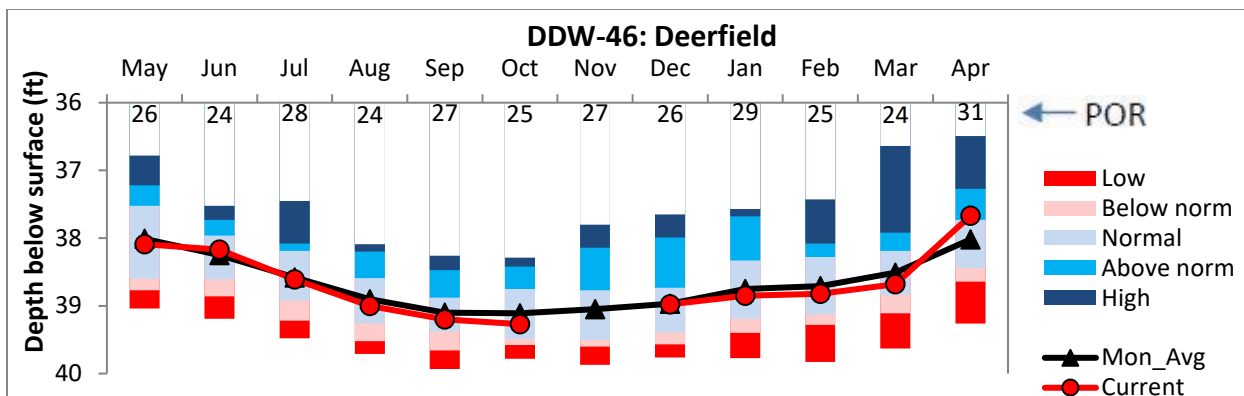


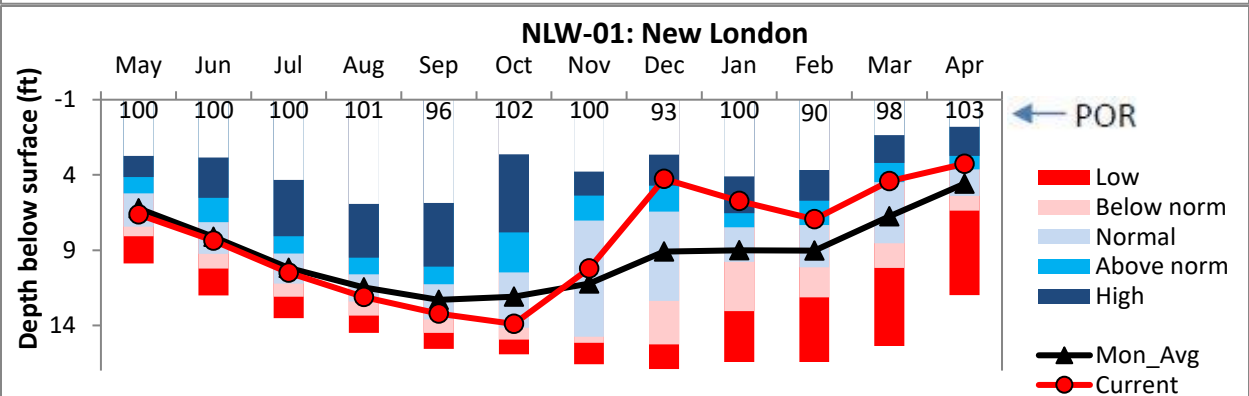
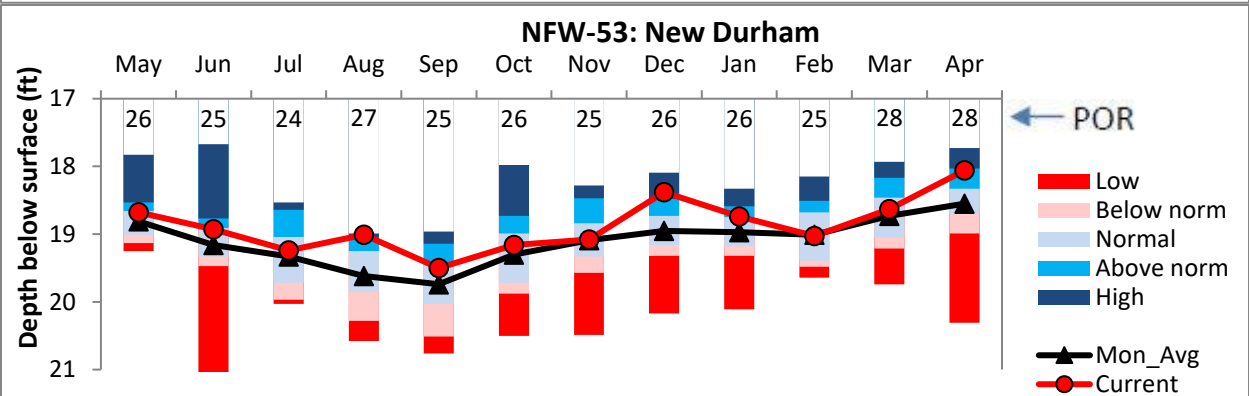
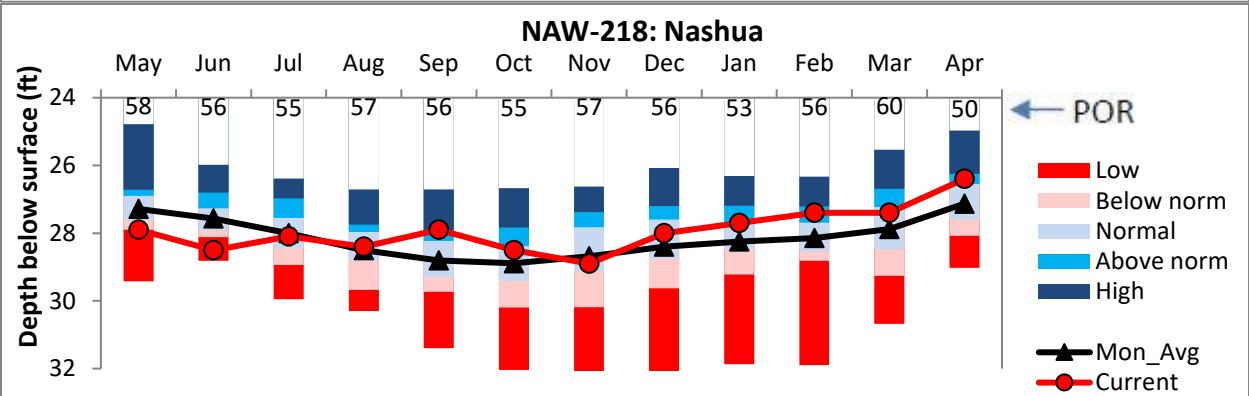
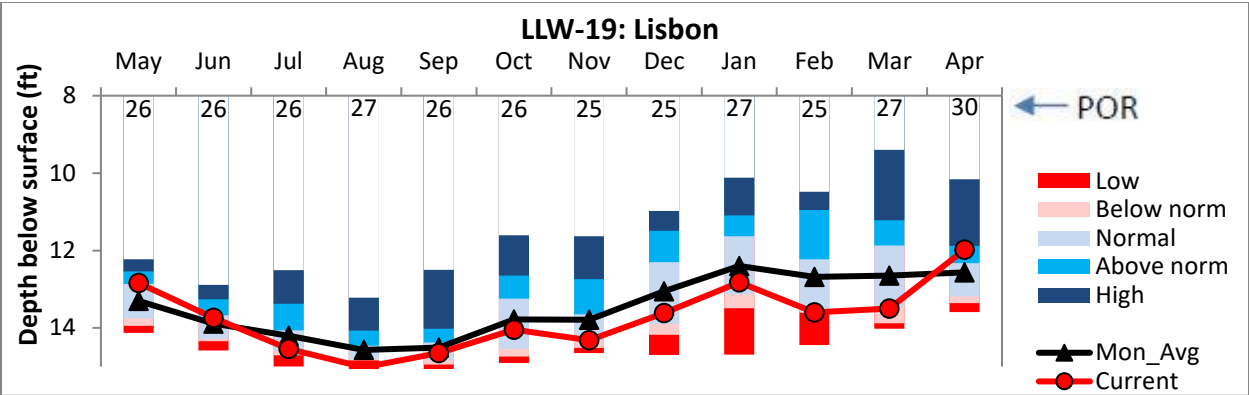
Figure 2. Groundwater Monitoring Network showing groundwater levels relative to statistical envelopes calculated over each well's period of record (POR).

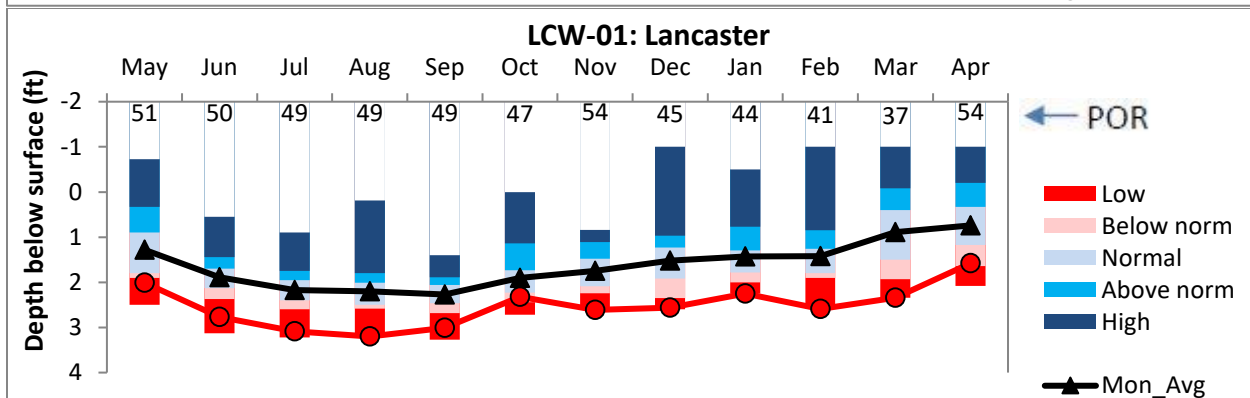
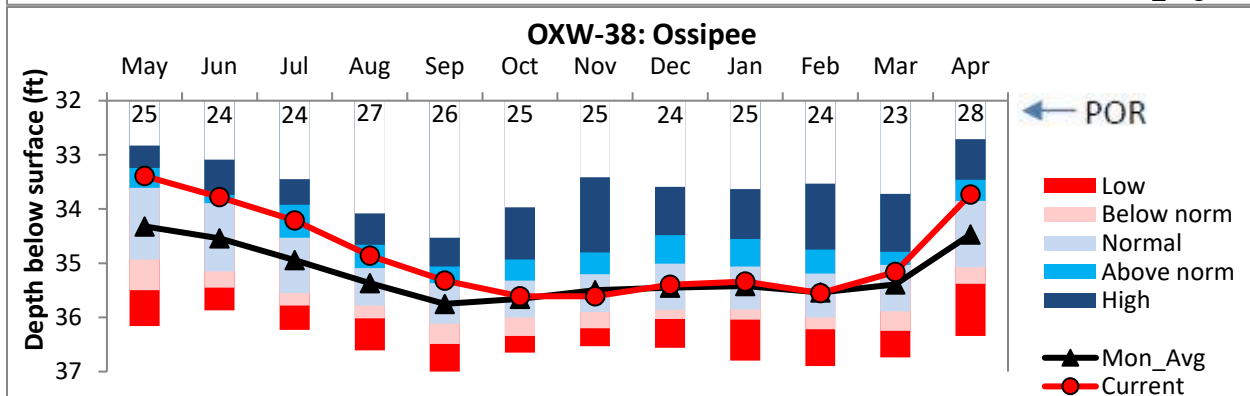
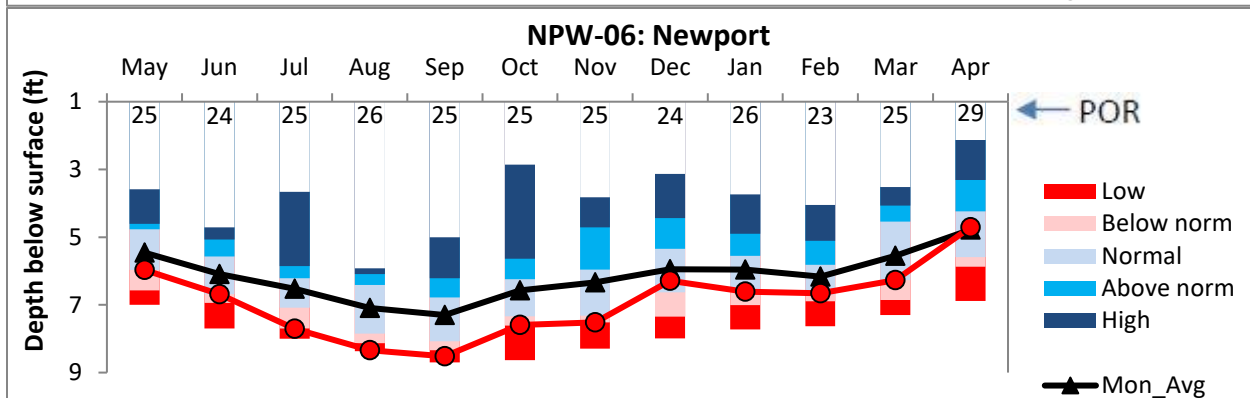
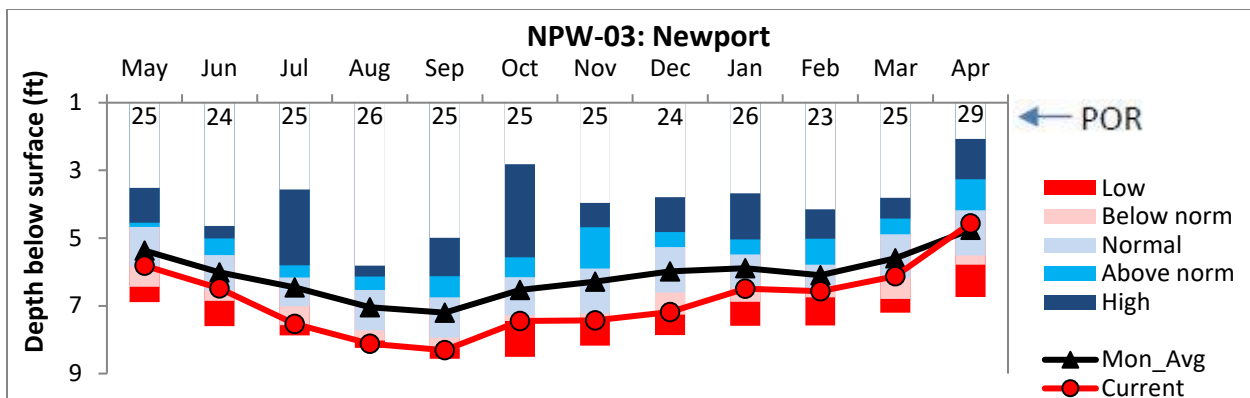
**OVERBURDEN WELL HYDROGRAPHS (Showing statistics for wells with  $\geq 10$  years of data)**

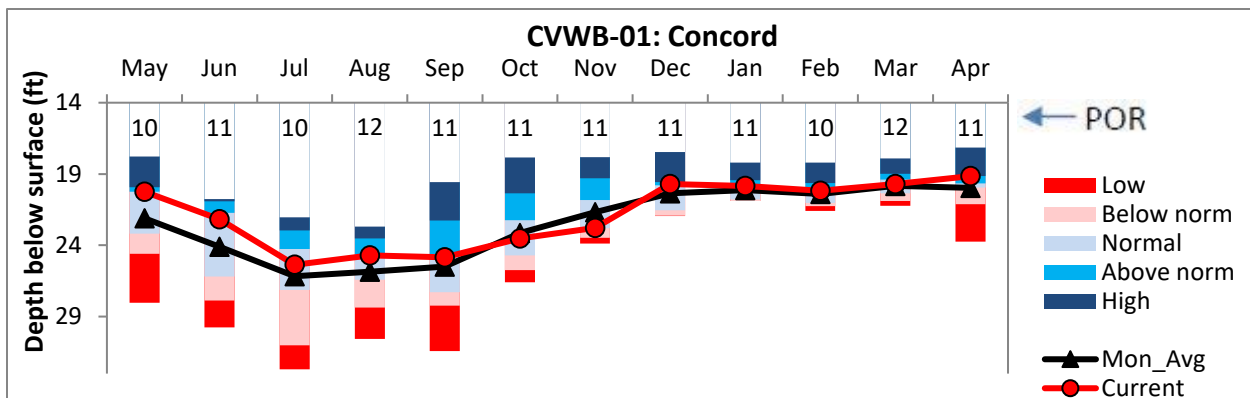




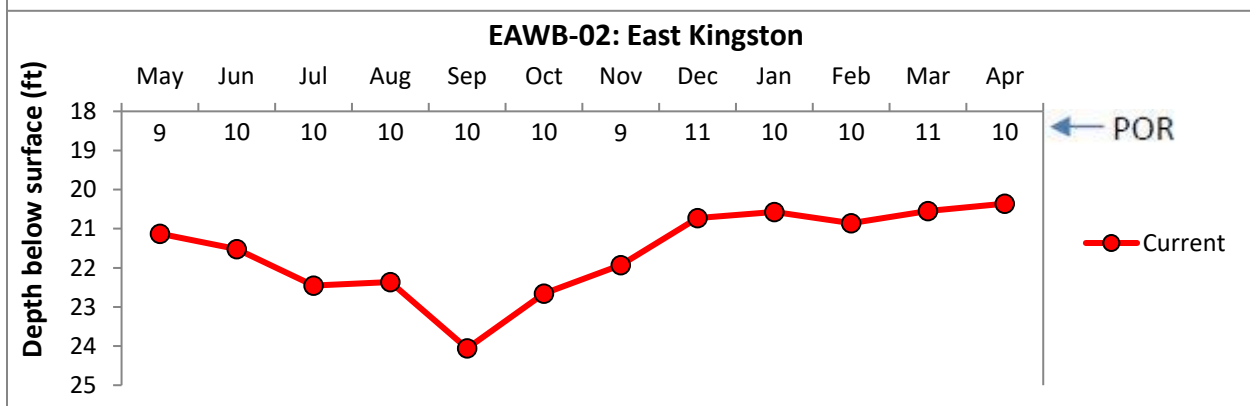
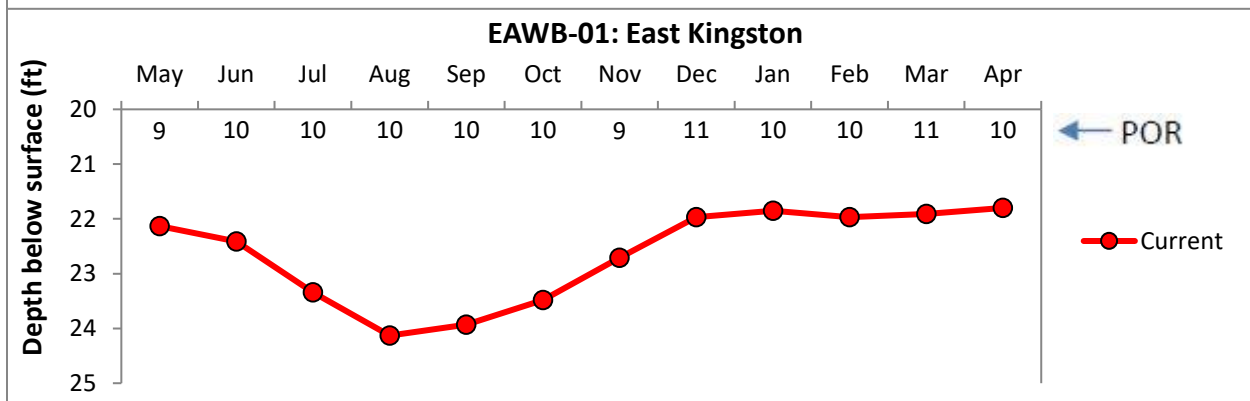
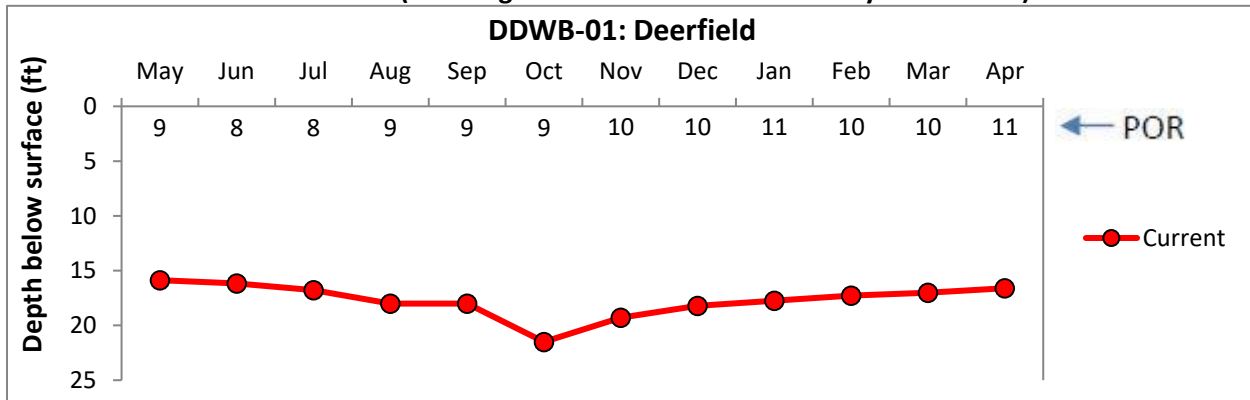


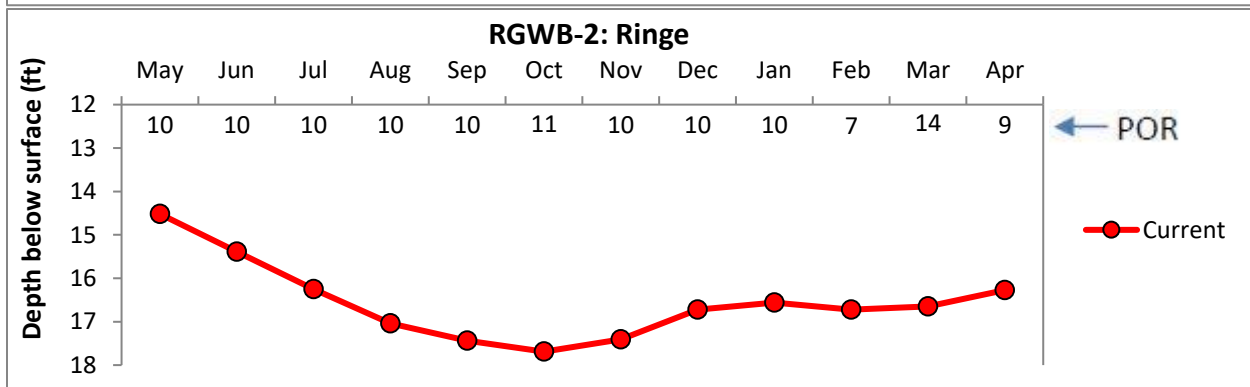
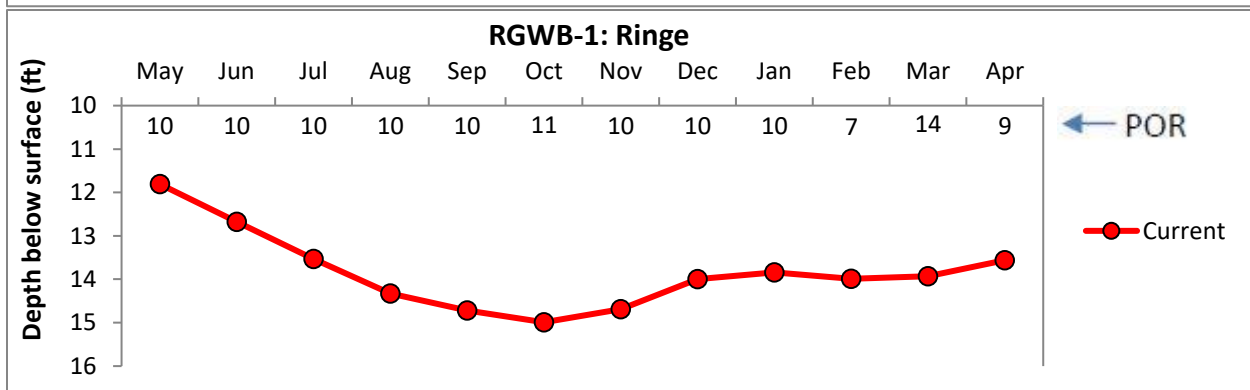
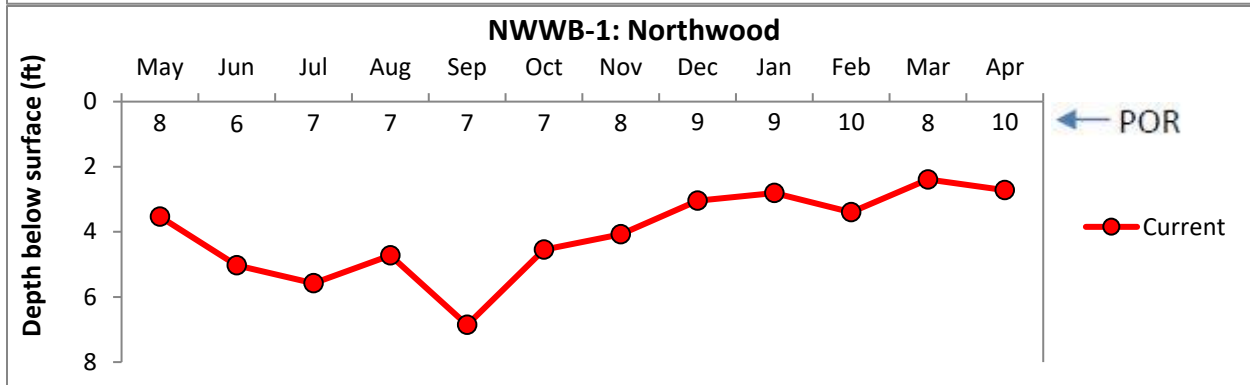
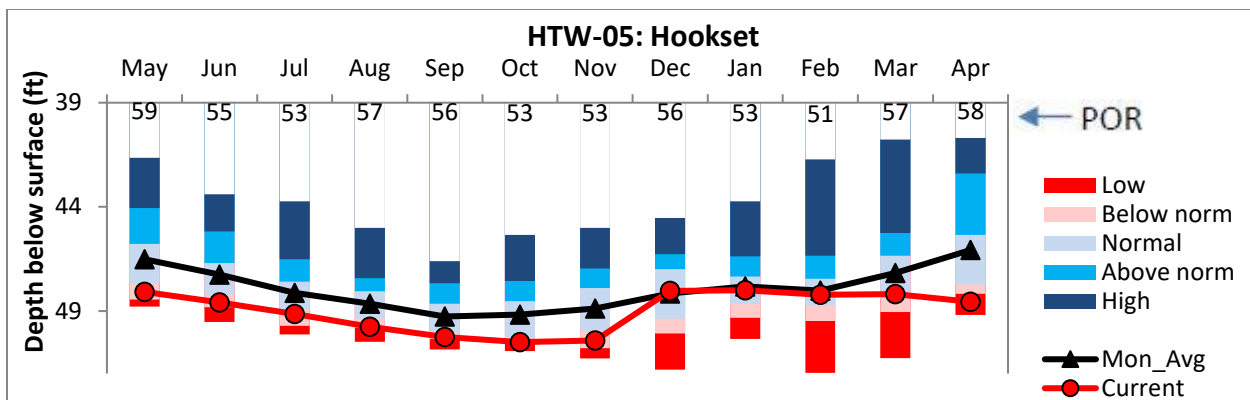


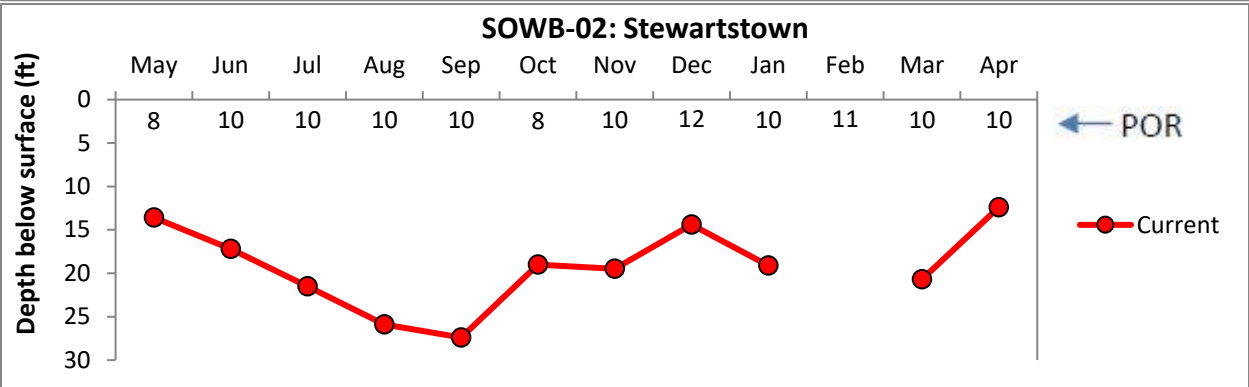
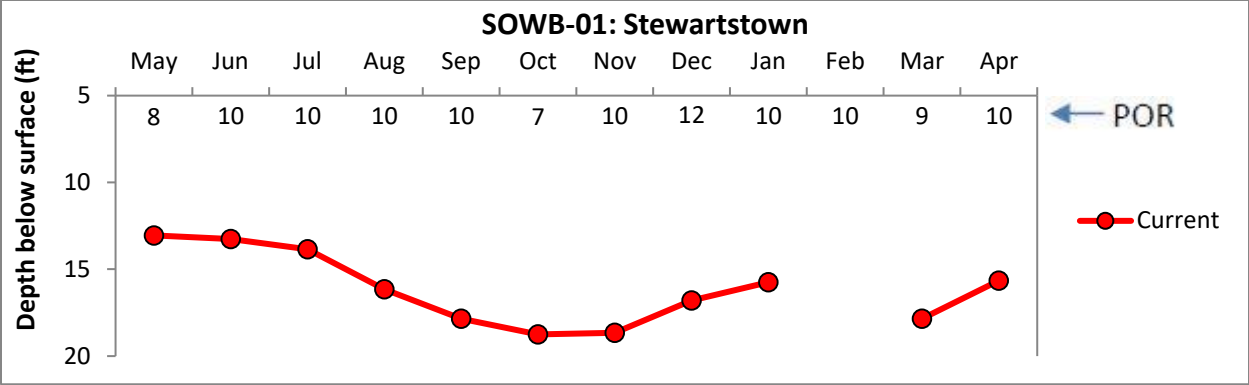




**BEDROCK WELL HYDROGRAPHS (Showing statistics for wells with ≥ 10 years of data)**







**Table 1.** Summary of groundwater levels sorted by region (dark blue – high, blue – above normal, light blue – normal, pink – below normal, red – low).

Well	Region	Well type	Screen/ open Interval (ft)	Depth to Water (ft)	Monthly Average (ft)	Current Status	Departure from Avg. (ft)	No. of meas.
BAW-10	Lakes	Overburden	23-25	1.25	2.12	High	0.87	23
FKW-01	Lakes	Overburden	45.5-47.5	11.7	10.8	Above norm	-0.9	55
NFW-53	Lakes	Overburden	28-30	18.69	18.55	Above norm	-0.14	28
OXW-38	Lakes	Overburden	0-22.55	34.41	34.47	Above norm	0.06	28
CVW-02.1	Merrimack	Overburden	59.8-61.8	40.07	-	Not Analyzed	-	3
CVW-04	Merrimack	Overburden	25-27	16.16	16.2	Normal	0.04	57
DDW-46	Merrimack	Overburden	59.8-61.8	38.26	38.02	Above norm	-0.24	31
NAW-218	Merrimack	Overburden	66-68	26.9	27.13	Above norm	0.23	50
CVWB-01	Merrimack	Bedrock	470-480	19.7	19.97	High	0.27	11
CVWB-02	Merrimack	Bedrock	0-315	13.4	13.65	High	0.25	11
DDWB-01	Merrimack	Bedrock	0-300	16.6	-	Not Analyzed	-	11
HTW-05	Merrimack	Bedrock	0-102.7	47.94	46.07	Low	-1.87	58
NWWB-01	Merrimack	Bedrock	0-130	2.72	-	Not Analyzed	-	10
GSW-75	Monadnock	Overburden	35.8-37.8	61.4	60.9	Above norm	-0.5	22
RGWB-01	Monadnock	Bedrock	391-401	13.56	-	Not Analyzed	-	9
RGWB-02	Monadnock	Bedrock	0-285	16.27	-	Not Analyzed	-	9
CTW-73	North Woods	Overburden	105-107	6.7	7.04	Normal	0.34	23
LCW-01	North Woods	Overburden	28-30	2.08	0.74	Below norm	-1.34	54
SOWB-01	North Woods	Bedrock	443-453	15.65	-	Not Analyzed	-	10
SOWB-02	North Woods	Bedrock	0-303	12.4	-	Not Analyzed	-	10
BBW-53	Seacoast	Overburden	21-23	3.46	-	Not Analyzed	-	2
EPW-90	Seacoast	Overburden	39.45-40.7	26.11	26.7	Normal	0.59	15
EAWB-01	Seacoast	Bedrock	463-473	21.8	-	Not Analyzed	-	10
EAWB-02	Seacoast	Bedrock	0-323	20.36	-	Not Analyzed	-	10
NLW-01	Sunapee	Overburden	40-42	4.6	4.58	Above norm	-0.02	103
NPW-03	Sunapee	Overburden	40.5-42.5	5.8	4.75	Normal	-1.05	29
NPW-06	Sunapee	Overburden	58-60	5.95	4.78	Normal	-1.17	29
ADW-14	White Mtns.	Overburden	77.5-79.5	3.78	4.13	Normal	0.35	28
ADW-15	White Mtns.	Overburden	16-18	4.1	5.26	High	1.16	28
CBW-34	White Mtns.	Overburden	21-23	11.32	11.05	High	-0.27	26
LLW-19	White Mtns.	Overburden	49.8-52.3	13.35	12.57	Above norm	-0.78	30